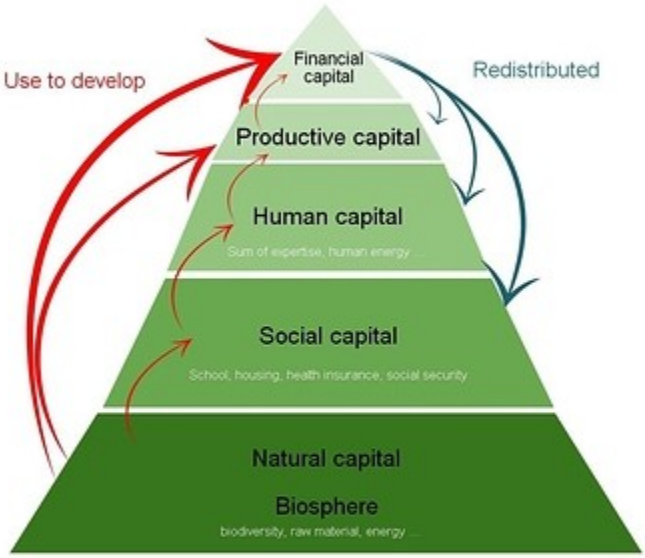
Open Source Circular Economy Days 2015

How to equip and manage a citizen open fablab using circular economy principles?

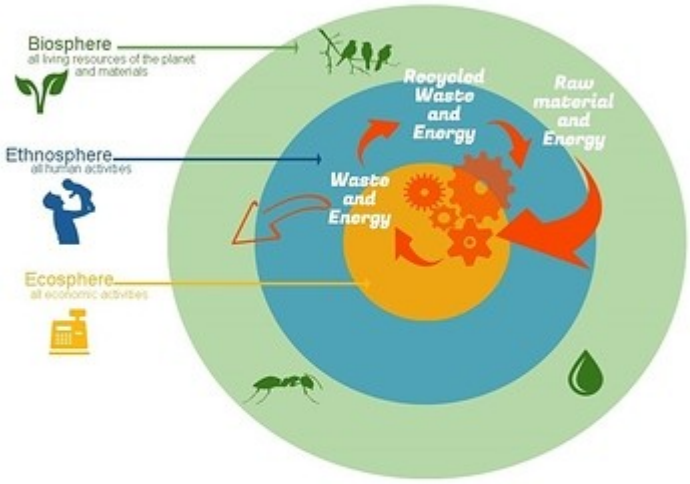
Draft and preparation work for OSCE DAYS 15

How the current economy works?



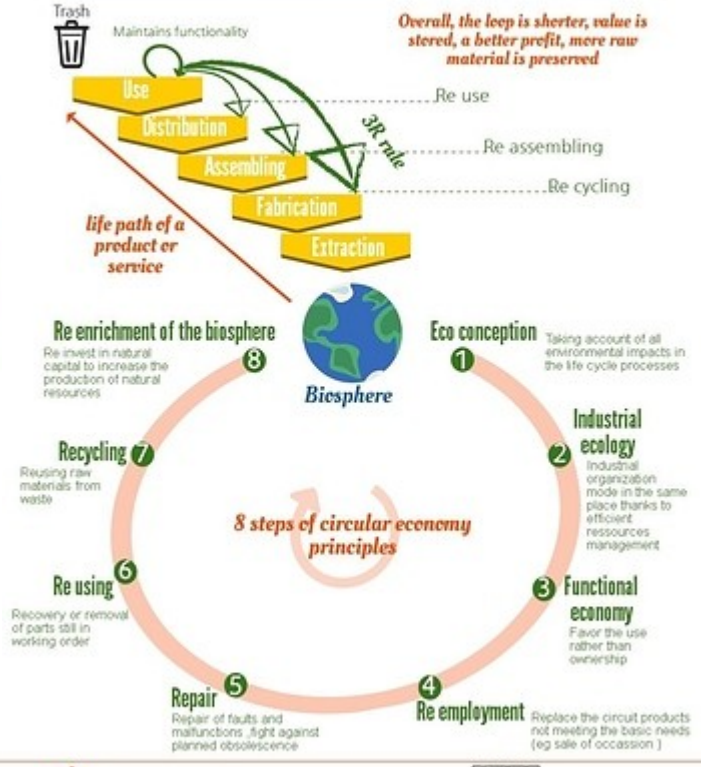
While Nature has been working in a loop for 3,5 billion years without producing any waste, we operate in a pyramid that relies highly on the Biosphère to function and redistributes few investment flow.

Draw inspiration from Nature to work in a better way



Inspired by Nature's working loop, we can optimize our flows of materials and energy in human activities. It allows less Biosphere robbing and less waste rejecting. But there is still no biosphere re-enrichment.

Circular Economy is much more than recycling


Trash
Maintains functionality
Overall, the loop is shorter, value is stored, a better profit, more raw material is preserved
Use
Distribution
Assembling
Fabrication
Extraction
3R rule
Re use
Re assembling
Re cycling
life path of a product or service
Biosphere
1 Eco conception
Taking account of all environmental impacts in the life cycle processes
2 Industrial ecology
Industrial organization mode in the same place thanks to efficient ressources management
3 Functional economy
Favor the use rather than ownership
4 Re employment
Replace the circuit products not meeting the basic needs (eg sale of occassion)
5 Repair
Repair of faults and malfunctions ,fight against planned obsolescence
6 Re using
Recovery or removal of parts still in working order
7 Recycling
Reusing raw materials from waste
8 Re enrichment of the biosphere
Re invest in natural capital to increase the production of natural resources
8 steps of circular economy principles

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We ask people

What citizen open fablab is?

What's a Fabircation Laboratory ?

Observe, study,
Measure,
Dismantle, defeat , dissect
Build, make, up
Cultivate , raise ,
Mobile capacity
Community // citizens invested

What are the needs of a lab?

Space
Community
Skills
Documentation Informatio
Bookstore
Working materials
Storage
Archive

A citizen open Lab?

security
Ease of use
Simplicity of understanding
Accessibility
Participatory
Collaborative
LAN
Collective
A ressourcerie
ability to collect , sort, store material (Recycling , repair or manufactured ...)
and also bioware

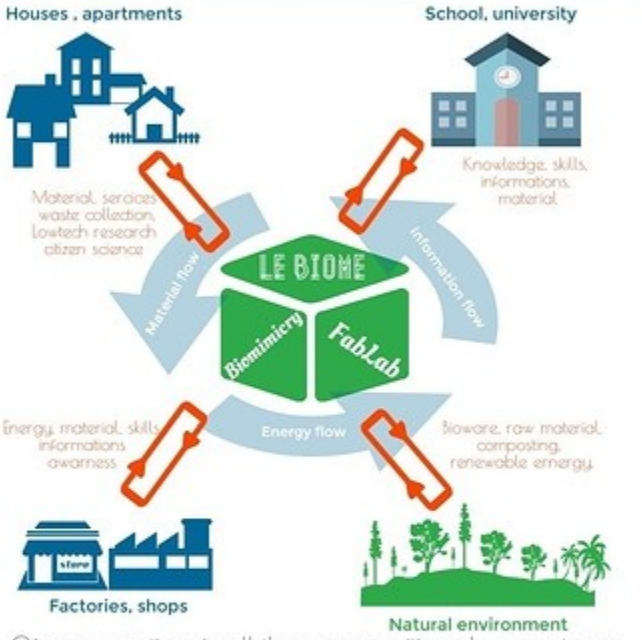
A Lab with circular economy ?

Management of informatic flow, material , energy
Functional pooling energie
Sefl energy production
Jugaad/less is more/Frugali innovation
Sharing skills & Expertise
Upcycling

How to bring circular economy in a lab?

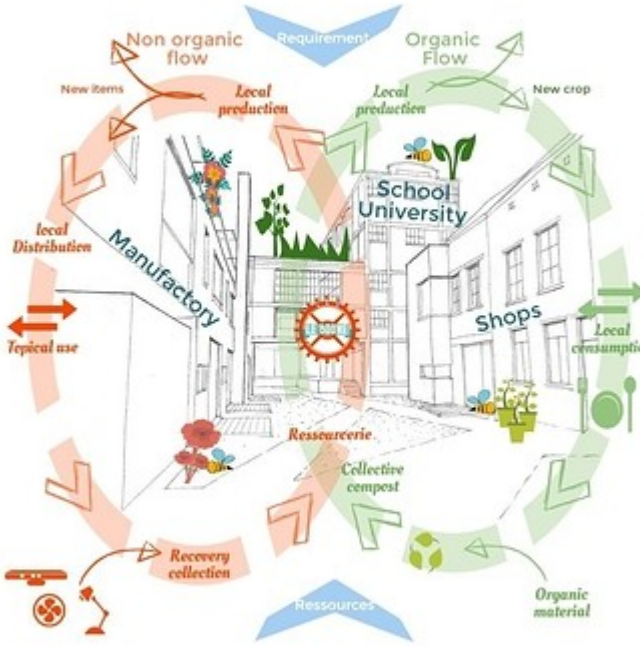
Proof of concept
Reduced energy costs
Reduction of logistics costs
Regulation of consumption
Training of stakeholders
Lobbyingfrom users on the client // lab
Differentiation competition /Marketing and strategic advantage
By recycling raw materials
Promoting circular economyQuality Production
Staying in a local dimension

Integrate lab circular economy in its host communities -1/2

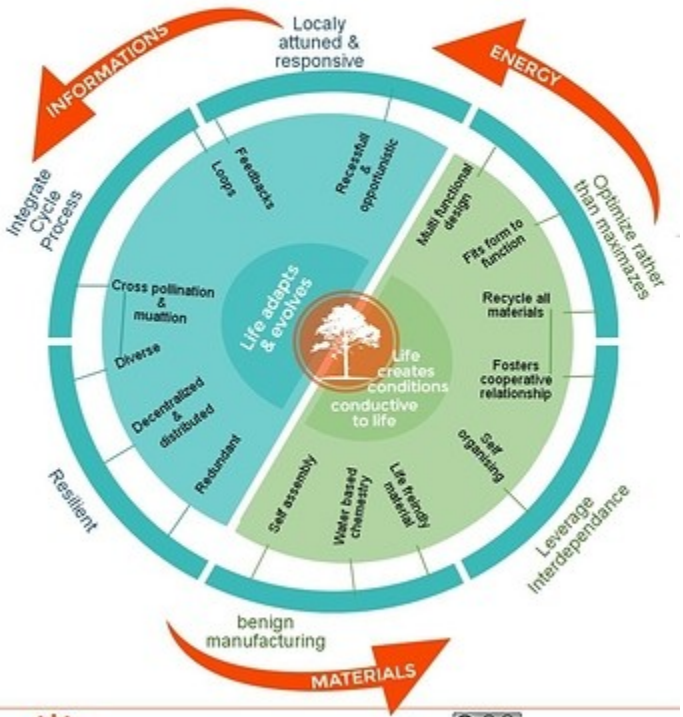


Of course, actions in all these communities rely on a strong connnection between all the involved citizen: it has to work in symbiosis, flows between each communities much be deeply optimized to minimize the environmental impact and therefore increase efficiency.

Integrate lab circular economy in its host communities - 2/2



Otpimazation flows Inspire from Nature



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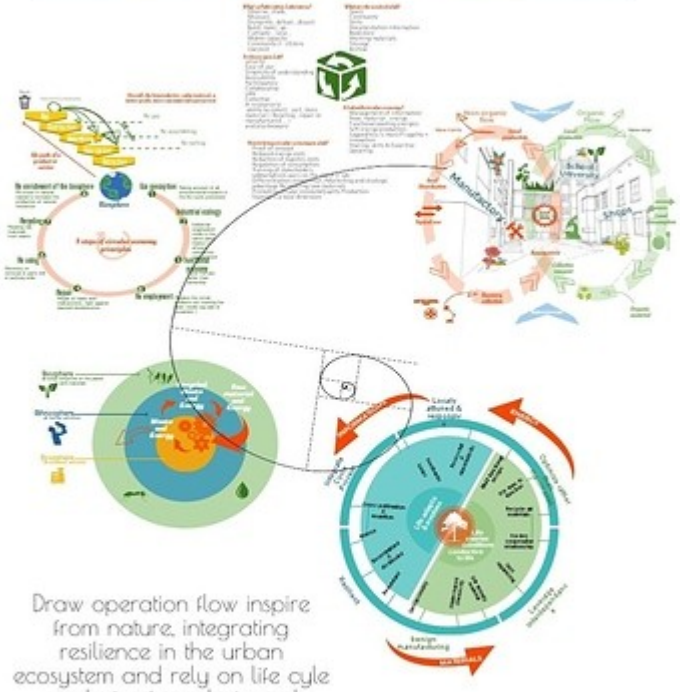
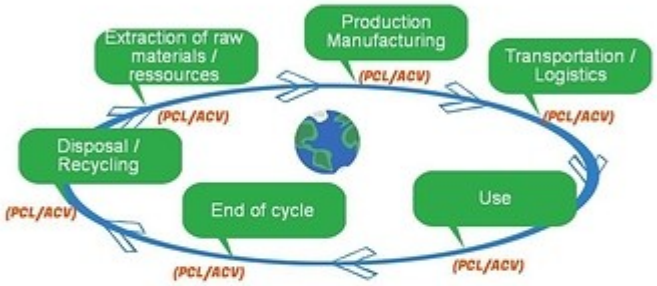
Analyze , understand and optimize for each step in the lab



Draw operation flow inspire from nature, integrating resilience in the urban ecosystem and rely on life cyle analysis of products and service (PCL / ACV)

Assessing the environmental impacts throughout the existence of a service or product

This is to identify and measure the flow inside and outside the system (PCL/ACV)



Any system studied in an analysis of the life cycle is decomposed into elementary processes and each unit process receives and transmits flow

1- The elementary streams are from (natural resources) or to (on waste) of the ecosphere

2- Economic flows from (flow input) or destination (output stream) from the technosphere

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Biomimicry FabLab & open community

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- Clélie Ropart , Biomer from Biome's community
- Erica Purvis from OSCE local organiser in London

Our local partners

SMS 'S

Spirulina from Madagascar Social & Solidarity

la feuille d'érable

Inserting Corporation pioneer in the recovery and recycling of paper in France

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